

UTILITY ADVISORY BOARD

Thursday, March 21, 2013

8:00 a.m.

**Walker City Hall
4243 Remembrance Road NW**

AGENDA

1. Approval of Minutes – February 21, 2013 (attached)
2. Public Comment on Agenda Items
3. 3-1-1 Implementation
4. Budget Review
 - a. Water System (attached)
 - b. Sewer System (attached)
5. Transformation Update
 - a. Communication Conversion – AT&T to Verizon (attached)
 - b. Energy Efficiency – HACH Realtime Nitrogen Controller (attached)
 - c. North Blower Project
6. Contract Awards for February, 2013 (attached)
7. Updates:
 - a. Sewer Use Ordinance Update
 - b. Processing Delinquent Accounts (Lien Process)
 - c. Customer Information System
 - d. EMA Update
8. Items from Members
9. Next Meeting – Thursday, April 18 - Where?
10. Adjournment

Utility Advisory Board
February 21, 2013

1. **Call to Order:**

The meeting was called to order by Chair, Eric DeLong, at 8:00 a.m. at Grand Rapids Wastewater Treatment Plant, 1300 Market Avenue SW.

2. **Attendance:**

Members Attending:

Scott Conners (Alternate)
Eric DeLong
Mike Lunn
George Haga
Wayne Jernberg
Pam Ritsema
Ed Robinette
Chuck Schroeder
Breese Stam (Alternate)
Ben Swayze
Joellen Thompson
Linda Wagenmaker (Alternate)
Josh Westgate
Ron Woods

Others Attending:

John Allen
Geri Eye
Steve Kepley
Sandra Korhorn
Eileen Pierce

Members Absent:

Scott Buhner (alternate attended)
Mark DeClercq (alternate attended)
Brian Donovan
Cathy VanderMeulen (alternate attended)
Toby VanEss

Chair Eric DeLong introduced the new Cascade Township Manager, Ben Swayze.

3. **Approval of Minutes:**

Motion 13-04: Ron Woods, supported by Ed Robinette, moved to approve the minutes of the January 17, 2013, Utility Advisory Board meeting as presented. Motion carried.

4. **Public Comment:** There was no public comment.

5. **Transformation Update – Investment at WWTP**

Chuck Schroeder reviewed the projects they have been done at the Wastewater Treatment Plant, the Market Avenue Retention Basin (MARB) and the Market Avenue Pump Station (MAPS) over the last seven years. There have been about \$47 million in projects completed during that time. These costs are integrated across the wastewater system.

Mr. Schroeder then reviewed each improvement briefly:

- Bar Screens and Screenings Conveyor-2005 \$1.4M
- Screenings Dewatering Compactor-2006 \$100,000
- Grit Removal Equipment-2007 and Blowers in 2011 \$75,000 & Blowers \$348,000
- Vactor Dump Pad-2007 \$1.35M
- Screw Pumps (Primary Effluent Retention Basin-PERB)-2010 \$1.37M
- Primary Tanks B-2005 \$1.45M
- Primary Tanks C-2007 \$1.08M
- Primary Tanks D-2007 \$250,000
- Demo of A-section Primary Tanks-2007 \$1.54M
- South Aeration Tanks-2005 \$4.61M
- Final Effluent Water Pumps-2005 \$85,000
- South Secondary Clarifier Tanks-2005 \$7M
- South Waste Activated Sludge (WAS) Pumps -2007 \$600,000
- North Secondary Tanks-2012 \$5.23M
- Lab HVAC System Improvements including Final Effluent Water heat exchanger-2006 \$1.22M
- Ferric Chloride Tanks-2007 \$1.03M
- North and South Plant Ultraviolet Disinfection-2005 \$3.02M
- Switchgear (Final Effluent Pumping Station) – Plant Power Supply – 2005 \$1.2M
- Second Electrical Feed into Plant-2007 \$500,000
- Administration Building/Preliminary Treatment Building Generator-2008 \$300,000
- Laboratory/Sample Room Improvements-2007 \$498,000
- Communication System-2007 \$447,000
- Final Effluent Screw Pump Gear Boxes and 4th Screw-2009 \$1.5M
- Slide Gate Actuator Replacement-Tunnel Rehabilitation Project-2009 \$1.12M
- MAPS Building, Wet Well and Sewer – Bar Screens – Screenings Conveyor C1&C2-2007 \$7.50M
- MAPS Generator and Automatic Switch Gear-2010 \$395,000
- MARB Pump Station-2009 \$876,000
- Demolition of ZIMPRO Building-2011 \$410,000
- Demolition of Digesters 5 & 6-2009 \$579,000

These improvements have raised the amount of BOD we are allowed from 98K to 160K.

Eric DeLong noted that the payoff is being sure we have an efficient operation, and the treatment capacity increase is also very important.

Ron Woods asked what the effluent limits went down to. Mike Lunn indicated that they haven't really gone down. We expect to be able to hold them the same.

Eric DeLong noted that we are on our way to being chemical free. Mike Lunn agreed that we are very close—probably one tank away from being chemical free. We are also looking at new technology being used in Europe that uses lower nitrogen levels and saves energy.

Eric DeLong noted that the \$47 million has been layered in over time and is an integrated cost. For that investment, we get a large payoff. Mike Lunn added that it's important to note that we won't be looking at a huge investment down the road because we have done good asset management along the way.

6. Capital Budget Review

Linda Wagenmaker indicated that expenditure budgets will be available at the next meeting with fund statements.

Ms. Wagenmaker referred members to the Water System Capital Budget that was provided with the agenda. The total for 5 years is \$54.3 million. \$21 million is for integrated system projects. She discussed when certain projects would hit the rates. Wayne Jernberg briefly reviewed some of the larger projects that are coming up. It was noted that a new project plan for DWRP will be submitted this summer.

Ms. Wagenmaker then referred members to the Sewage Disposal System Capital Budget that was provided with the agenda. The total for 5 years is \$65 million. This is up from last year. \$6.25 million is for integrated system projects. CSO projects are included at \$14.1 million. Mike Lunn briefly reviewed some of the larger projects that are coming up. He discussed the thinking behind moving to using bonds rather than cash funding some of these projects. He noted that Kathie Kuzawa should give an update on footing drain projects at one of the next UAB meetings.

7. Contract Awards

There were no awards made in January.

8. Updates

Sewer Use Ordinance - Mike Lunn reported that the Sewer Use Ordinance was noticed with the State on February 14. He expects if all goes well we should be able to have this on the City Commission agenda in April.

Delinquent Accounts – There is no update at this time.

Customer Information System – Joellen Thompson reported that a resolution authorizing final acceptance payment was taken to the City Commission this week. The next phase was also authorized, and they will be starting to move down that path.

Eric DeLong noted that we are starting the 311 implementation soon as well, and there will be some impacts as that is implemented. We should have an update on this at the

next meeting. Becky Jo Glover, the new 311 Customer Service Center Manager, could be invited to present at the next meeting.

EMA Update – Pam Ritsema reported that the attorney's office is reviewing the agreement currently. We believe that City Commission authorized financing for this in 2011 so she thinks it will be a routine approval. If all goes well, we should be able to get started in about a month.

9. 2012 Rate Study

The 2012 Rate Study is now available online. Linda Wagenmaker noted that she also has books available for each partner community that they can take with them today.

10. Items from Members:

Pam Ritsema reported that she expects the credits due customers for the billing error that was uncovered recently, to be applied on the March, April, and May billings.

Mike Lunn noted there were a couple bags of compost available at the side of the room for members to see. We are ready to begin producing composting as part of the Grand Valley Regional Biosolids Authority project.

Mr. Lunn also reported that Dave Harris is now a Wastewater Treatment Plant Superintendent. Gary DeKock will be retiring, and they are doing secession planning.

Eric DeLong noted that a tour was available for members if they wish.

11. Next Meeting:

The next meeting will be held on Thursday, March 21, at 8:00 a.m., at Walker City Hall.

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City of Grand Rapids
WATER SYSTEM RECEIVING/OPERATIONS (ENWSS500)
STATEMENT OF OPERATIONS

Organizations	2012 Actuals	2013 Adopted	2013 Amended	2013 Adopted Estimate	2014 Adopted Proposed	2015 Adopted Forecast	2016 Adopted Forecast	2017 Adopted Forecast	2018 Adopted Forecast
REVENUE									
<u>RECEIVING/OPERATIONS (ENWSS500)</u>									
401 Taxes	0	0	0	0	0	0	0	0	0
450 Licenses And Permits	14,460	30,000	30,000	11,200	12,000	12,000	12,000	12,000	12,000
501 Intergovernmental Revenues	0	0	0	0	0	0	0	0	0
600 Charges For Services	42,306,924	41,527,791	41,527,791	43,916,722	42,784,823	43,236,228	44,120,953	45,023,371	45,943,839
655 Fines And Forfeitures	1,149,243	1,273,638	1,273,638	1,346,719	1,400,000	1,428,000	1,456,560	1,485,691	1,515,405
664 Interest And Rents	600,720	698,730	698,730	608,730	626,371	646,013	662,433	684,632	695,525
671 Other Revenue	427,750	0	0	111,500	14,000	14,280	14,566	14,857	15,154
695 Other Financing Sources	2,274,018	1,987,718	1,987,718	1,857,142	1,933,471	1,972,140	2,011,583	2,051,815	2,092,851
695 Other Financing Sources-Bond proceeds/closeouts	(3,363,696)	0	0	0	0	0	0	0	0
RECEIVING/OPERATIONS Total Revenue	43,409,419	45,517,877	45,517,877	47,852,013	46,770,665	47,308,661	48,278,095	49,272,366	50,274,774
EXPENDITURES									
<u>RECEIVING/OPERATIONS (ENWSS500)</u>									
701 Personal Services	12,948,984	13,471,454	13,209,576	12,189,929	12,523,972	12,747,246	12,784,964	12,856,352	13,006,562
726 Supplies	2,899,222	3,021,400	3,686,848	2,637,334	2,874,150	2,930,433	2,988,862	3,048,457	3,109,244
800 Other Services And Charges	8,699,835	8,322,998	8,884,893	8,006,464	9,053,007	9,514,377	9,793,574	10,116,950	10,470,943
970 Capital Outlay	0	330,300	330,300	287,500	434,500	434,500	434,500	434,500	434,500
990 Debt Service	5,922,115	5,902,051	5,902,051	5,670,080	5,369,864	5,073,733	4,851,351	4,321,564	3,740,414
996 Appropriation Lapse	0	(1,030,000)	(1,030,000)	0	(1,020,000)	(1,055,000)	(1,075,000)	(1,083,000)	(1,117,000)
999 Transfers Out	743,226	1,064,941	1,618,980	1,357,102	1,022,957	1,053,419	1,084,790	1,117,098	1,150,370
999 Transfers Out-Capital cash projects	463,500	2,011,000	2,011,000	2,011,000	5,650,000	4,710,000	5,500,000	1,550,000	2,770,000
RECEIVING/OPERATIONS Total Expenditures	31,676,882	33,094,144	34,613,647	32,159,409	35,908,450	35,408,708	36,363,041	32,361,921	33,565,033
RECEIVING/OPERATIONS NET INCOME (LOSS)	11,732,537	12,423,733	10,904,230	15,692,604	10,862,215	11,899,953	11,915,054	16,910,445	16,709,741
Other Sources & Uses of Cash									
Less: Payment of Debt Service Principal	(9,110,000)	(9,610,000)	(9,610,000)	(9,825,000)	(10,445,000)	(11,085,000)	(11,680,000)	(12,655,000)	(13,080,000)
Add: Proceeds From Bond Issues	0	0	0	0	0	0	0	0	0
Net Other Sources & Uses	(9,110,000)	(9,610,000)	(9,610,000)	(9,825,000)	(10,445,000)	(11,085,000)	(11,680,000)	(12,655,000)	(13,080,000)
Net Change in Available Cash	2,622,537	2,813,733	1,294,230	5,867,604	417,215	814,953	235,054	4,255,445	3,629,741
Unrestricted Cash - Beginning of Year	17,062,805	19,685,342	19,685,342	19,685,342	25,552,946	25,970,161	26,785,114	27,020,168	31,275,614
Unrestricted Cash - End of Year	19,685,342	22,499,075	20,979,572	25,552,946	25,970,161	26,785,114	27,020,168	31,275,614	34,905,355
Reserve Targets:									
Assigned to Reserves - 25% of Current Spending	10,196,720	10,676,036	11,055,912	10,496,102	11,588,363	11,623,427	12,010,760	11,254,230	11,661,258
Restricted for Bonds & Surety Reserves	0	0	0	4,290,745	3,998,250	3,630,313	3,219,551	2,728,051	2,202,051
Assigned to Capital	0	0	0	0	0	0	0	0	0
Unassigned Cash	9,488,622	11,823,039	9,923,660	10,766,099	10,383,548	11,531,374	11,789,857	17,293,332	21,042,046
Total	19,685,342	22,499,075	20,979,572	25,552,946	25,970,161	26,785,114	27,020,168	31,275,614	34,905,355
Unassigned Cash as a % of Total Current Spending	23.26%	27.69%	22.44%	25.64%	22.40%	24.80%	24.54%	38.42%	45.11%

City of Grand Rapids
WATER SYSTEM RECEIVING/OPERATIONS (ENWSS500)
STATEMENT OF OPERATIONS

Organizations	2012 Actuals	2013 Adopted	2013 Amended	2013 Adopted Estimate	2014 Adopted Proposed	2015 Adopted Forecast	2016 Adopted Forecast	2017 Adopted Forecast	2018 Adopted Forecast
NET EARNINGS OF THE SYSTEM (1)	21,193,155	20,336,784	18,817,281	23,373,684	21,882,079	21,683,686	22,266,405	22,782,009	23,220,155
CASH BASIS DEBT SERVICE-SENIOR	14,892,528	15,069,828	15,069,828	15,069,828	15,442,333	15,539,396	15,523,634	15,612,134	15,481,134
DEBT COVERAGE RATIO-SENIOR DEBT	1.42	1.35	1.25	1.55	1.42	1.40	1.43	1.46	1.50
CASH BASIS DEBT SERVICE-JUNIOR				300,954	534,775	816,175	1,250,850	1,629,963	1,634,200
DEBT COVERAGE RATIO-ALL DEBT				1.52	1.37	1.33	1.33	1.32	1.36

(1) Pursuant to Bond Ordinance definition of Net Earnings, does not include debt service or transfers for capital projects.

Supplemental Detail:

999	Transfers Out (A-87 Cost Allocation)	717,456	1,041,286	1,041,286	1,041,286	1,000,266	1,030,274	1,061,182	1,093,018	1,125,808
999	Transfers Out (Development Center)	25,770	23,655	23,655	23,655	22,691	23,145	23,608	24,080	24,561
999	Transfers Out (BA13-6: 311 Start-Up Costs)	0	0	554,039	292,161	0	0	0	0	0
999	Transfers Out (Capital Projects)	463,500	2,011,000	2,011,000	2,011,000	5,650,000	4,710,000	5,500,000	1,550,000	2,770,000
		<u>1,206,726</u>	<u>3,075,941</u>	<u>3,629,980</u>	<u>3,368,102</u>	<u>6,672,957</u>	<u>5,763,419</u>	<u>6,584,790</u>	<u>2,667,098</u>	<u>3,920,370</u>
695	Other Financing Sources - Bond (SRF) Proceeds	(2,629,222)	0	0	0	0	0	0	0	0
695	Other Financing Sources - Op Trans-In (Transfer Bond R	(758,835)	0	0	0	0	0	0	0	0
695	Other Financing Sources - Op Trans-In (Cap Project Clos	24,361	0	0	0	0	0	0	0	0
695	Other Financing Sources - Op Trans-In (ICB From SDS)	94,303	0	0	0	0	0	0	0	0
695	Other Financing Sources - Op Trans-In (Water Billing Svc	2,179,715	1,987,718	1,987,718	1,857,142	1,933,471	1,972,140	2,011,583	2,051,815	2,092,851
		<u>(1,089,678)</u>	<u>1,987,718</u>	<u>1,987,718</u>	<u>1,857,142</u>	<u>1,933,471</u>	<u>1,972,140</u>	<u>2,011,583</u>	<u>2,051,815</u>	<u>2,092,851</u>

WATER SUPPLY SYSTEM

Subfunds	2013 Adopted	2014 Adopted	Variance	% Change	Comments
REVENUE					
451006 CONTRACTOR UNDERGROUND LICENSE	10,000	6,000	(4,000)	(40.0%)	
476012 TAPPING PERMITS	20,000	6,000	(14,000)	(70.0%)	
607001 MISCELLANEOUS SERVICE FEES	437,556	550,000	112,444	25.7%	FY14 aligned with actuals, supported by there being new fees and more consistent billing of service fees with new CIS
607033 SERVICES FOR CONTRACTORS	75,000	75,000	0	0.0%	
607050 INSPECTION FEES - UTILITIES	33,200	30,000	(3,200)	(9.6%)	
607051 FRONT FOOTAGE	20,000	150,000	130,000	650.0%	FY14 aligned with FY13 estimate, supported by improving housing market and outlook for new developments
607052 METER SETTING FEES	33,000	36,000	3,000	9.1%	
607053 INTEGRATED CONNECTION FEES	700,000	700,000	0	0.0%	
607111 FIRE HYDRANT BILLINGS	62,000	62,000	0	0.0%	
642011 RETAIL METERED WATER SALES	36,599,332	37,240,390	641,058	1.8%	1/1/13 rate decrease offset by billed volume increase in calendar 2012 (used in projection); 1/1/14 rate increase/revenue increase projected at 2%
642012 WHOLESALE WATER SALES	3,472,203	3,797,433	325,230	9.4%	1/1/13 rate decrease offset by billed volume increase in calendar 2012 (used in projection); 1/1/14 rate increase/revenue increase projected at 2%
642013 WYOMING WATER SALES	13,500	14,000	500	3.7%	
642024 UNMETERED WATER SALES	82,000	130,000	48,000	58.5%	FY14 aligned with actual in FY12 & estimate in FY13 when fees were increased
659002 WATER PENALTIES	1,273,638	1,400,000	126,362	9.9%	FY13 was low due to suspension of penalties during CIS go-live
667003 RENTALS - FACILITIES	498,730	516,371	17,641	3.5%	
672002 INTEREST/PENALTIES ON SPEC ASSM	0	14,000	14,000	#DIV/0!	
699001 OPERATING TRANSFERS IN-SUBSIDY	1,987,718	1,933,471	(54,247)	(2.7%)	reduction in budgeted costs in Water Customer Service result in reduced billing to Sewage Disposal System for their share of costs
665001 INTEREST ON INVESTMENT	200,000	110,000	(90,000)	(45.0%)	
Total Revenue	45,517,877	46,770,665	1,252,788	2.8%	
EXPENDITURES					
7020 PERMANENT EMPLOYEES	7,741,862	7,096,422	(645,440)	(8.3%)	continued transformation/restructuring (15.6 less budgeted FTE's in FY14)
7025 ACT.ASSIGNMENT	12,500	12,000	(500)	(4.0%)	
7050 REGULAR HOURLY RATE	8,100	7,100	(1,000)	(12.3%)	
7055 TIME & ONE-HALF	415,881	375,110	(40,771)	(9.8%)	focused reduction as part of transformation/restructuring
7105 EMPLOYERS SOCIAL SECURITY	634,035	580,224	(53,811)	(8.5%)	follows perm employee reduction (flat percentage of wages)
7110 HOSPITALIZATION INSURANCE	1,684,231	1,545,550	(138,681)	(8.2%)	2.8% rate increase offset by 15.6 less permanent position FTE's
7115 RETIREE HEALTH CARE	1,119,266	1,002,515	(116,751)	(10.4%)	2.2% rate decrease plus less permanent position FTE's
7120 RETIREMENT FUND CONTRIBUTION	1,427,878	1,492,087	64,209	4.5%	14.2% rate increase offset by less permanent position FTE's
7125 SPECIAL PENSION BENEFITS	14,118	14,118	0	0.0%	
7135 UNEMPLOYMENT COMPENSATION	10,958	10,039	(918)	(8.4%)	
7150 LONGEVITY PAY	83,875	74,645	(9,229)	(11.0%)	
7160 TEMPORARY	11,791	6,132	(5,659)	(48.0%)	
7165 SHIFT DIFFERENTIAL	18,800	19,300	500	2.7%	
7175 FOOD/CLEAN/CAR ALLOWANCE	2,496	0	(2,496)	(100.0%)	
SUBTOTAL PERSONAL SERVICES	13,185,791	12,235,243	(950,548)	(7.2%)	
7260 SUPPLIES	1,595,700	1,351,000	(244,700)	(15.3%)	focused reduction as part of transformation/restructuring
7300 POSTAGE	180,900	180,150	(750)	(0.4%)	
7680 CLOTHING	4,000	2,500	(1,500)	(37.5%)	
8140 COMPUTER SERVICES	481,870	679,688	197,818	41.1%	increases for data storage and number of computers along with less use of unassigned cash in FY14
8150 311 Call Center Services	0	525,526	525,526	#DIV/0!	implementation scheduled for 7/1/13
8160 ENGINEERING SERVICES	49,677	51,167	1,490	3.0%	
8180 CONTRACTUAL SERVICES	1,142,399	1,075,224	(67,175)	(5.9%)	
8355 CLAIMS	237,838	292,422	54,584	23.0%	
8450 INSURANCE PREMIUMS	165,917	175,746	9,829	5.9%	
8500 TELEPHONE	54,388	56,388	2,000	3.7%	
8800 COMMUNITY PROMOTION	9,000	2,000	(7,000)	(77.8%)	
9000 PRINTING & PUBLISHING	4,500	5,500	1,000	22.2%	
9210 ELECTRICITY	3,145,000	3,545,000	400,000	12.7%	FY14 aligned with FY13 estimate for increase pumpage in FY13
9220 WATER	5,200	5,200	0	0.0%	
9230 NATURAL GAS	500,000	382,500	(117,500)	(23.5%)	FY14 aligned with FY13 estimate and FY12 actual
9300 MAINTENANCE SERVICE	773,352	665,052	(108,300)	(14.0%)	refocused program of meter replacement to use existing inventory of large meters
9330 PAVEMENT REPAIR	1,236,000	1,336,000	100,000	8.1%	increased cost of materials & rebid of contracts related to trench repair & emergency manhole repair
9420 EQUIPMENT RENTALS OR LEASE	1,257,238	1,155,435	(101,803)	(8.1%)	increased rental rates were offset by less vehicles/equipment as a result of realignment and analysis of usage
9430 LAND RENTAL OR LEASE	3,000	3,000	0	0.0%	
9440 VEHICLE USAGE/CAR MILEAGE	25,752	23,269	(2,483)	(9.6%)	
9550 PROFESSIONAL DEVELOPMENT	15,620	14,300	(1,320)	(8.5%)	
9552 OTHER TRAVEL & TRAINING	23,000	23,000	0	0.0%	
9554 LOCAL BUSINESS EXPENSE	1,000	1,000	0	0.0%	
9556 MEMBERSHIPS	47,047	45,047	(2,000)	(4.3%)	
9558 SUBSCRIPTIONS AND PUBLICATIONS	3,500	3,000	(500)	(14.3%)	
9610 FEES	4,500	2,000	(2,500)	(55.6%)	
9616 ADMINISTRATIVE SERVICES	170,000	160,000	(10,000)	(5.9%)	
9622 REFUSE COLLECTION CHARGES	9,356	8,500	(856)	(9.1%)	
9750 FURNITURE	10,500	5,000	(5,500)	(52.4%)	
9760 EQUIPMENT	319,800	429,500	109,700	34.3%	needed replacement of old equipment (including valve operators & shoring of trenches) and new technical equipment for field crews
9950 INTEREST & PAYING AGENT FEES	5,902,051	5,369,864	(532,187)	(9.0%)	Issue costs on bonds no longer being amortized (\$469K) per GASB
9960 APPROPRIATION LAPSE	(1,030,000)	(1,020,000)	10,000	(1.0%)	
9992 OPERATING TRANSFERS-A87 COST	1,041,286	1,000,266	(41,020)	(3.9%)	
9993 OPERATING TRANS-CAPT PROJECTS	2,011,000	5,650,000	3,639,000	181.0%	Increase reflects management's desire to improve debt coverage ratio by cash funding projects other than DWRF eligible projects
9994 OPERATING TRANS-DEV CENTER	23,655	22,691	(964)	(4.1%)	
TREASURER	456,506	419,472	(37,035)	(8.1%)	
ENERGY & SUSTAINABILITY	27,800	26,800	(1,000)	(3.6%)	
Total Expenditures	33,094,143	35,908,450	2,814,306	(8.5%)	
NET INCOME (LOSS)	12,423,734	10,862,215	(1,561,518)	(12.6%)	

WATER SUPPLY SYSTEM
FY2014 OPERATING BUDGET REQUEST
 March 18, 2013

COST CENTER	FY10	FY11	-----FY12-----		-----FY13-----			FY14
	ACTUAL	ACTUAL	BUDGET (1)	ACTUAL	REQUEST	AMENDED (2)	ESTIMATE	REQUEST
ADMINISTRATION	\$ 2,651,260	\$ 2,379,507	\$ 2,424,322	\$ 2,425,328	\$ 2,867,371	\$ 2,899,582	\$ 2,762,908	\$ 2,986,208
CUSTOMER SERVICE	5,666,977	5,684,859	6,092,674	5,276,138	4,836,613	5,490,373	4,474,921	4,703,694
ENGINEERING	1,240,430	1,002,590	1,391,054	1,050,412	1,199,018	1,367,103	1,072,456	1,116,833
COLDBROOK CONTROL	1,377,300	1,419,678	1,620,492	1,317,445	1,346,400	1,346,400	1,305,925	1,379,357
COLDBROOK DISTRIBUTION	2,108,422	2,216,498	2,772,909	2,189,875	2,634,009	2,634,009	2,309,274	2,646,604
FIELD OPERATIONS	6,376,239	6,206,200	7,014,749	5,767,082	5,737,544	6,402,991	5,329,179	5,582,897
FILTRATION	7,078,759	6,915,345	7,548,367	6,823,168	7,105,831	7,105,831	6,770,723	7,046,721
TREASURER	418,296	321,557	537,026	421,578	456,506	456,506	432,943	419,472
ENERGY & SUSTAINABILITY		12,503	29,300	20,242	27,800	27,800	20,000	26,800
LAPSE (ADMIN) (3)			(1,065,000)	-	(1,030,000)	(1,030,000)		(1,020,000)
10% REDUCTION-COMPENSATION			(1,474,622)					
SUBTOTAL	26,917,683	26,158,737	26,891,271	25,291,267	25,181,092	26,700,596	24,478,329	24,888,586

COMPARISON TO FY12 FINAL BUDGET - % CHANGE		-7.45%
COMPARISON TO FY12 ACTUAL - % CHANGE	-3.21%	-1.59%
COMPARISON TO FY13 REQUESTED BUDGET - % CHANGE	-2.79%	-1.16%
COMPARISON TO FY13 AMENDED BUDGET - % CHANGE		-6.79%

INTEREST (ADMIN)	7,600,227	5,668,529	6,821,831	5,922,115	5,902,051	5,902,051	5,670,080	5,369,864
TRANSFERS-CASH PROJECTS			225,000	463,500	2,011,000	2,011,000	2,011,000	5,650,000
TOTAL	<u>\$ 34,517,910</u>	<u>\$ 31,827,266</u>	<u>\$ 33,938,102</u>	<u>\$ 31,676,882</u>	<u>\$ 33,094,143</u>	<u>\$ 34,613,647</u>	<u>\$ 32,159,409</u>	<u>\$ 35,908,450</u>

FY14 TOTAL REQUESTED EXPENDITURES IN FY12 PLAN	38,645,047
LESS: 8.2% REDUCTION IN TOTAL COMPENSATION	(1,363,336)
LESS: INTEREST EXPENSE	(6,182,402)
LESS: TRANSFERS-CAPITAL CASH PROJECTS	(3,475,000)
	<u>\$ 27,624,309</u>
FY14 OPERATING BUDGET REQUEST (BEFORE INTEREST & TRANSFERS-CASH PROJECTS)	<u>\$ 24,888,586</u>

TRANSFORMATION SAVINGS	\$ 2,735,723
TRANSFORMATION SAVINGS %	9.9%

- 1) Final budget.
- 2) Amended budget through BA #13-9.
- 3) Lapse calculated at 4% of total Water Dept. budget without interest and capital transfers.

City of Grand Rapids
SEWAGE SYSTEM RECEIVING/OPERATIONS (ENSDS500)
STATEMENT OF OPERATIONS

Organizations	2012 Actuals	2013 Adopted	2013 Amended	2013 Adopted Estimate	2014 Adopted Proposed	2015 Adopted Forecast	2016 Adopted Forecast	2017 Adopted Forecast	2018 Adopted Forecast
REVENUE									
<u>RECEIVING/OPERATIONS (ENSDS500)</u>									
401 Taxes	0	0	0	0	0	0	0	0	0
450 Licenses And Permits	48,814	62,000	62,000	61,400	65,800	68,900	68,900	68,900	68,900
501 Intergovernmental Revenues	0	0	0	0	0	0	0	0	0
600 Charges For Services	51,570,276	52,375,155	52,375,155	51,868,498	51,784,538	52,870,975	53,897,867	55,049,510	56,097,703
655 Fines And Forfeitures	0	0	0	0	0	0	0	0	0
664 Interest And Rents	161,995	175,000	175,000	120,000	120,000	130,000	140,000	150,000	150,000
671 Other Revenue	1,774,228	665,000	665,000	708,994	740,000	745,000	755,000	760,000	765,000
695 Other Financing Sources-Bond proceeds/closeouts	(3,000,548)	0	0	0	0	0	0	0	0
RECEIVING/OPERATIONS Total Revenue	50,554,765	53,277,155	53,277,155	52,758,892	52,710,338	53,814,875	54,861,767	56,028,410	57,081,603
EXPENDITURES									
<u>RECEIVING/OPERATIONS (ENSDS500)</u>									
701 Personal Services	8,826,740	9,672,441	9,672,441	9,288,194	9,369,204	9,565,186	9,614,688	9,681,185	9,796,864
726 Supplies	1,312,386	1,522,801	1,522,801	1,238,612	1,430,093	1,352,078	1,362,675	1,366,685	1,374,001
800 Other Services And Charges	10,983,195	12,052,790	15,388,344	13,003,581	12,310,361	12,442,462	12,713,737	12,960,896	13,265,276
970 Capital Outlay	0	233,500	233,500	153,050	211,000	216,000	216,000	216,750	217,519
990 Debt Service	12,007,136	13,566,217	13,566,217	12,694,107	12,779,776	12,698,986	13,615,555	13,250,022	12,866,716
996 Appropriation Lapse	0	(1,053,000)	(1,053,000)	0	(1,036,000)	(1,048,000)	(1,064,000)	(1,079,000)	(1,099,000)
999 Transfers Out	2,862,983	2,150,810	2,150,810	2,020,234	2,608,842	2,666,572	2,725,648	2,786,102	2,847,967
999 Transfers Out-Capital cash projects	3,010,000	6,326,000	6,326,000	6,326,000	1,160,000	1,165,000	600,000	1,860,000	1,100,000
RECEIVING/OPERATIONS Total Expenditures	39,002,440	44,471,559	47,807,113	44,723,778	38,833,276	39,058,285	39,784,303	41,042,640	40,369,343
RECEIVING/OPERATIONS NET INCOME (LOSS)	11,552,325	8,805,596	5,470,042	8,035,114	13,877,062	14,756,590	15,077,464	14,985,770	16,712,260
<u>Other Sources & Uses of Cash</u>									
Less: Payment of Debt Service Principal	(8,290,280)	(8,697,129)	(8,697,129)	(8,748,629)	(9,882,776)	(8,569,094)	(7,973,709)	(8,147,000)	(8,305,000)
Add: Proceeds From Bond Issues	0	0	0	0	0	0	0	0	0
Net Other Sources & Uses	(8,290,280)	(8,697,129)	(8,697,129)	(8,748,629)	(9,882,776)	(8,569,094)	(7,973,709)	(8,147,000)	(8,305,000)
Net Change in Available Cash	3,262,045	108,467	(3,227,087)	(713,515)	3,994,286	6,187,496	7,103,755	6,838,770	8,407,260
Unrestricted Cash - Beginning of Year	16,866,365	20,128,410	20,128,410	20,128,410	19,414,895	23,409,181	29,596,677	36,700,432	43,539,202
Unrestricted Cash - End of Year	20,128,410	20,236,876	16,901,322	19,414,895	23,409,181	29,596,677	36,700,432	43,539,202	51,946,462
Reserve Targets:									
Assigned to Reserves - 25% of Current Spending	11,823,180	13,292,172	14,126,061	13,368,102	12,179,013	11,906,845	11,939,503	12,297,410	12,168,586
Assigned for possible surety cancellation	0	0	0	7,083,901	7,083,901	7,083,901	7,083,901	6,817,970	6,532,283
Unassigned Cash	8,305,230	6,944,704	2,775,262	(1,037,108)	4,146,267	10,605,931	17,677,028	24,423,822	33,245,593
Total	20,128,410	20,236,876	16,901,322	19,414,895	23,409,181	29,596,677	36,700,432	43,539,202	51,946,462
Unassigned Cash as a % of Total Current Spending	17.56%	13.06%	4.91%	-1.94%	8.51%	22.27%	37.01%	49.65%	68.30%

Budget 2014, Version 1

City of Grand Rapids
SEWAGE SYSTEM RECEIVING/OPERATIONS (ENSDS500)
STATEMENT OF OPERATIONS

	2012	2013	2013	2013	2014	2015	2016	2017	2018
	Actuals	Adopted	Amended	Adopted	Adopted	Adopted	Adopted	Adopted	Adopted
Organizations				Estimate	Proposed	Forecast	Forecast	Forecast	Forecast

NET EARNINGS OF THE SYSTEM (1)	28,434,872	28,697,813	25,362,259	27,055,221	27,816,838	28,620,576	29,293,019	30,095,792	30,678,976
CASH BASIS DEBT SERVICE-SENIOR	16,494,970	18,153,177	18,153,177	16,774,503	18,648,027	18,647,095	20,093,408	20,604,227	20,606,252
DEBT COVERAGE RATIO-SENIOR DEBT	1.72	1.58	1.40	1.61	1.49	1.53	1.46	1.46	1.49
CASH BASIS DEBT SERVICE-JUNIOR	3,737,713	4,021,406	4,021,406	4,104,069	4,128,303	2,484,994	1,117,032	938,788	724,650
DEBT COVERAGE RATIO-ALL DEBT	1.41	1.29	1.14	1.30	1.22	1.35	1.38	1.40	1.44

(1) Pursuant to Bond Ordinance definition of Net Earnings, does not include debt service or transfers for capital projects.

Supplemental Detail:

999	Transfers Out (A-87 Cost Allocation)	573,231	163,092	163,092	163,092	635,371	654,432	674,065	694,287	715,116
999	Barricading Expense (Traffic Safety)	0	0	0	0	40,000	40,000	40,000	40,000	40,000
999	Transfers Out (Development Center)	13,867	0	0	0	0	0	0	0	0
999	Transfers Out (ICB BA)	94,303	0	0	0	0	0	0	0	0
999	Transfers Out (BA12-19 / LEAN A-3)	1,867	0	0	0	0	0	0	0	0
999	Transfers Out (Capital Projects)	3,010,000	6,326,000	6,326,000	6,326,000	1,160,000	1,165,000	600,000	1,860,000	1,100,000
999	Transfers Out (Water Billing Service)	2,179,715	1,987,718	1,987,718	1,857,142	1,933,471	1,972,140	2,011,583	2,051,815	2,092,851
		5,872,983	8,476,810	8,476,810	8,346,234	3,768,842	3,831,572	3,325,648	4,646,102	3,947,967
695	Other Financing Sources - Bond (SRF) Proceeds	(3,813,243)	0	0	0	0	0	0	0	0
695	Other Financing Sources - Op Trans-In (Subsidy)	812,695	0	0	0	0	0	0	0	0
		(3,000,548)	0	0	0	0	0	0	0	0

SEWAGE DISPOSAL SYSTEM

Subfunds	2013 Adopted	2014 Adopted	Variance	% Change	Comments
REVENUE					
476009 INDUSTRIAL PRETREATMENT PERMITS	62,000	65,800	3,800	6.1%	
607001 MISCELLANEOUS SERVICE FEES	0	10,000	10,000	#DIV/0!	
607050 INSPECTION FEES - UTILITIES	23,660	20,000	(3,660)	(15.5%)	
607051 FRONT FOOTAGE	40,000	45,000	5,000	12.5%	
607053 INTEGRATED CONNECTION FEES	618,000	660,000	42,000	6.8%	
607055 RETAIL SEWAGE SERVICE	46,980,527	46,717,229	(263,298)	(0.6%)	Rate decrease in calendar 2013
607056 WYOMING SEWAGE SERVICE	90,000	90,000	0	0.0%	
607057 INDUSTRIAL DISCHARGE AUTHORIZAT	35,000	24,800	(10,200)	(29.1%)	
607060 WHOLESALE SEWAGE SERVICE	2,104,268	1,831,609	(272,659)	(13.0%)	Rate decrease in calendar 2013
607074 SEWAGE SURCHARGE	2,483,700	2,370,900	(112,800)	(4.5%)	Rate decrease in calendar 2013
642019 INVENTORY WITHDRAWALS (SALES)	0	15,000	15,000	0.0%	
672002 INTEREST/PENALTIES ON SPEC ASSM	10,000	10,000	0	0.0%	
676001 REFUNDS - EXPENDITURES	0	5,000	5,000	0.0%	
676007 EXPENDITURE - REIMBURSEMENT	650,000	705,000	55,000	8.5%	
694014 MISCELLANEOUS OTHER	5,000	20,000	15,000	300.0%	
665001 INTEREST ON INVESTMENT	175,000	120,000	(55,000)	(31.4%)	
Total Revenue	53,277,155	52,710,338	(566,817)	(1.1%)	
EXPENDITURES					
7020 PERMANENT EMPLOYEES	5,735,470	5,518,216	(217,254)	(3.8%)	Position substitution adds not included in projections (only delete portion).
7025 ACT.ASSIGNMENT	13,500	9,500	(4,000)	(29.6%)	
7050 REGULAR HOURLY RATE	75,000	0	(75,000)	(100.0%)	Plant Superintendent
7055 TIME & ONE-HALF	131,737	132,000	263	0.2%	
7105 EMPLOYERS SOCIAL SECURITY	457,469	441,791	(15,678)	(3.4%)	
7110 HOSPITALIZATION INSURANCE	1,240,915	1,189,957	(50,958)	(4.1%)	Yearly rate increased from \$11,643 in FY13 to \$11,919 in FY14
7115 RETIREE HEALTH CARE	827,259	778,494	(48,765)	(5.9%)	Rate has decreased from 14.30% in FY13 to 13.98% in FY14
7120 RETIREMENT FUND CONTRIBUTION	1,051,007	1,153,331	102,324	9.7%	Rate has increased from 18.51% in FY13 to 21.14% in FY14
7125 SPECIAL PENSION BENEFITS	13,373	14,118	745	5.6%	
7135 UNEMPLOYMENT COMPENSATION	8,099	10,487	2,388	29.5%	
7150 LONGEVITY PAY	49,360	50,310	950	1.9%	
7160 TEMPORARY	51,835	71,000	19,165	37.0%	Support for Interns to introduce Environmental Work.
7165 SHIFT DIFFERENTIAL	15,000	0	(15,000)	(100.0%)	
7175 FOOD/CLEAN/CAR ALLOWANCE	2,418	0	(2,418)	(100.0%)	
SUBTOTAL PERSONAL SERVICES	9,672,441	9,369,204	(303,237)	(3.1%)	
7260 SUPPLIES	1,502,801	1,405,307	(97,494)	(6.5%)	Continued improvement on ordering and supply management.
7300 POSTAGE	2,000	1,950	(50)	(2.5%)	
7680 CLOTHING	18,000	22,836	4,836	26.9%	
8140 COMPUTER SERVICES	354,551	739,779	385,228	108.7%	Per exhibit and additional independent computer services moved from 8180/contractual services in FY14 per budget instructions.
8150 311 Call Center Services	0	67,768	67,768	#DIV/0!	Per exhibit / new in FY14.
8160 ENGINEERING SERVICES	47,139	48,553	1,414	3.0%	Per exhibit.
8180 CONTRACTUAL SERVICES	6,047,320	5,795,081	(252,239)	(4.2%)	Includes \$4,269,774 for GVRBA in FY14; FY13 includes \$600K carover for large diameter sewer cleaning; additional catchbasin cleaning absorbed by staff in FY14.
8355 CLAIMS	277,027	374,478	97,451	35.2%	Per exhibit plus \$23K cushion/rounding in FY14.
8450 INSURANCE PREMIUMS	198,442	210,198	11,756	5.9%	Per exhibit.
8500 TELEPHONE	145,753	124,843	(20,910)	(14.3%)	
8800 COMMUNITY PROMOTION	200	200	0	0.0%	
9000 PRINTING & PUBLISHING	13,100	12,750	(350)	(2.7%)	
9210 ELECTRICITY	2,528,255	2,591,051	62,796	2.5%	
9220 WATER	52,277	55,594	3,317	6.3%	
9230 NATURAL GAS	318,439	228,346	(90,093)	(28.3%)	
9300 MAINTENANCE SERVICE	481,953	481,584	(369)	(0.1%)	
9310 HOME REPAIR	100,000	100,000	0	0.0%	
9410 BUILDINGS RENTALS OR LEASE	20,607	21,347	740	3.6%	Per exhibit.
9420 EQUIPMENT RENTALS OR LEASE	1,328,069	1,291,982	(36,087)	(2.7%)	
9430 LAND RENTAL OR LEASE	7,500	7,500	0	0.0%	
9440 VEHICLE USAGE/CAR MILEAGE	12,680	11,917	(763)	(6.0%)	
9550 PROFESSIONAL DEVELOPMENT	14,880	20,880	6,000	40.3%	FY14 includes \$5000 for Tuition Reimbursement.
9552 OTHER TRAVEL & TRAINING	48,100	68,000	19,900	41.4%	Increased to support development of a flexible workforce.
9554 LOCAL BUSINESS EXPENSE	3,800	5,800	2,000	52.6%	
9556 MEMBERSHIPS	17,840	17,995	155	0.9%	
9558 SUBSCRIPTIONS AND PUBLICATIONS	4,900	4,780	(120)	(2.4%)	
9610 FEES	26,575	26,575	0	0.0%	
9622 REFUSE COLLECTION CHARGES	3,383	3,360	(23)	(0.7%)	
9750 FURNITURE	14,000	14,000	0	0.0%	
9760 EQUIPMENT	219,500	197,000	(22,500)	(10.3%)	
9950 INTEREST & PAYING AGENT FEES	13,566,217	12,779,776	(786,441)	(5.8%)	Series 2012 Sewer Revenue Bond issue was \$6M less than the estimated bond issue. The FY13 interest expense was budgeted on \$36M of estimated bond proceeds in January 2012 whereas the FY14 interest expense was budgeted on \$30M of actual bond proceeds in January 2013. \$300K interest expense decrease in FY14 generally attributable to 2013 principal payments on all outstanding sewer revenue bonds and state revolving funds (SRF) because these named FY13 principal payments lower the outstanding debt balance upon which FY14 interest is calculated.
9960 APPROPRIATION LAPSE	(1,053,000)	(1,036,000)	17,000	(1.6%)	4% of SDS operating fund excluding interest & paying agent fees.
9990 OPERATING TRANS OUT-SUBSIDIES	1,987,718	1,973,471	(14,247)	(0.7%)	Water billing service and barricade expense (new in FY14 - \$40K).
9992 OPERATING TRANSFERS-A87 COST	163,092	635,371	472,279	289.6%	Per exhibit. Large carryover benefit in FY13.
9993 OPERATING TRANS-CAPT PROJECTS	6,326,000	1,160,000	(5,166,000)	(81.7%)	Per capital budget.
Total Expenditures	44,471,559	38,833,276	(5,638,283)	(12.7%)	
NET INCOME (LOSS)	8,805,596	13,877,062	5,071,466	57.6%	

SEWAGE DISPOSAL SYSTEM
FY2014 OPERATING BUDGET REQUEST
 March 18, 2013

COST CENTER	FY10 ACTUAL	FY11 ACTUAL	-----FY12-----		-----FY13-----			FY14 REQUEST
			BUDGET (1)	ACTUAL	REQUEST	AMENDED (2)	ESTIMATE	
ADMINISTRATION	\$ 2,359,006	\$ 2,110,946	\$ 1,917,588	\$ 1,623,526	\$ 1,269,354	\$ 1,269,354	\$ 1,199,793	\$ 1,821,024
CUSTOMER SERVICES	2,101,817	1,895,126	2,024,711	2,179,715	1,987,718	1,987,718	1,857,142	1,933,471
WASTEWATER TREATMENT	16,118,258	15,565,991	18,216,769	15,286,119	17,269,652	19,554,022	17,141,175	17,006,969
SS REPAIR & MAINT	4,611,791	4,630,631	6,335,667	4,875,701	5,077,818	6,129,002	5,485,561	5,141,236
ENERGY & SUSTAINABILITY		12,799	29,300	20,242	27,800	27,800	20,000	26,800
LAPSE (ADMIN) (3)			(1,030,000)		(1,053,000)	(1,053,000)		(1,036,000)
10% REDUCTION-COMPENSATION			(996,746)					
SUBTOTAL	25,190,872	24,215,493	26,497,289	23,985,303	24,579,342	27,914,896	25,703,671	24,893,500

COMPARISON TO FY12 FINAL BUDGET - % CHANGE		-6.05%
COMPARISON TO FY12 ACTUAL - % CHANGE	7.16%	3.79%
COMPARISON TO FY13 REQUESTED BUDGET - % CHANGE	4.57%	1.28%
COMPARISON TO FY13 AMENDED BUDGET - % CHANGE		-10.82%

DEBT SERVICE (ADMIN)	10,403,762	11,239,789	12,607,019	11,484,605	13,566,217	13,566,217	12,694,107	12,779,776
TRANSFERS-CASH PROJECTS			3,010,000	3,010,000	6,326,000	6,326,000	6,326,000	1,160,000
TOTAL	<u>\$ 35,594,634</u>	<u>\$ 35,455,282</u>	<u>\$ 42,114,308</u>	<u>\$ 38,479,908</u>	<u>\$ 44,471,559</u>	<u>\$ 47,807,113</u>	<u>\$ 44,723,778</u>	<u>\$ 38,833,276</u>

FY14 TOTAL REQUESTED EXPENDITURES IN FY12 PLAN	44,978,526
LESS: 8.2% REDUCTION IN TOTAL COMPENSATION	(914,653)
LESS: INTEREST EXPENSE	(14,092,162)
LESS: TRANSFERS-CAPITAL CASH PROJECTS	(2,495,000)
	<u>\$ 27,476,711</u>

FY14 OPERATING BUDGET REQUEST (BEFORE INTEREST & TRANSFERS-CASH PROJECTS)	<u>\$ 24,893,500</u>
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TRANSFORMATION SAVINGS	\$ 2,583,211
TRANSFORMATION SAVINGS %	9.4%

- 1) Final budget.
 2) Amended budget through BA #13-9.
 3) Lapse calculated at 4% of total Sewer Dept. budget without interest and capital transfers.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: March 14, 2013

TO: UAB Members

FROM: Mike Lunn, ESD Manager

SUBJECT: Communication conversion – AT&T to Verizon

To date about 30 of the 62 stations which used AT&T digital data circuits have been converted to Verizon LTE (wireless). The two primary reasons for this change are reliability and cost. The AT&T circuits lose communication quite frequently (2-10 failures each month) and result in 7-10 stations being out of contact for 15 minutes to 3 days. In testing, logic was developed for the occasional dropped packet by the Verizon System. In the event of loss of communication with the Verizon system only one station is out of contact. The average cost of the AT&T circuit is about \$115 per month per station (varies slightly by location). The cost of the Verizon LTE is \$10 per month per station.

After completing the conversion of all the lift stations, equipment will be installed to leverage Verizon LTE at the four wholesale meter stations. The cost to convert the meter station will be approximately \$1,340 each. This upgrade will provide real-time monitoring of these meters and eliminate the circular charts. The data on the circular charts will be available in tabular (spreadsheet) format through the Supervisor Control and Data Acquisition System (SCADA). Warnings and Alarms will also be set to alert staff of unusual flows. The data will also be integrated into the model developed within the next 12 months as part of the Long Term Wet Weather Flow Control Program.

Once this work is completed customers can be provided access to the reporting server via VPN if real-time access to the data is desired.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: March 14, 2013

TO: UAB Members

FROM: Mike Lunn, ESD Manager

SUBJECT: Energy Efficiency – HACH Realtime Nitrogen Controller

HACH has offered to partner with the City of Grand Rapids on a new technology known as the RTC103 Nitrification Controller. It has been highly successful in Europe and has the potential of reducing energy usage by the blowers 5-10% (\$70,000-\$125,000) annually. There are two plants in North America currently involved in this evaluation, the other is in California. The cost is \$143,000 for the equipment and plant staff will perform the installation. I have not been able to identify a similar competing system.

Attached is the HACH proposal for your review. My understanding is that the proposal will be revised so that there will be a 90-day startup period after it goes online during which the equipment can be returned at no cost to the City.

I am requesting UAB approval to proceed with the sole source purchase of the equipment and evaluation.

Nitrification Controller Proposal

City of Grand Rapids Environmental Services Division

3/12/13

SUMMARY

The following proposal is between Hach Company (Hach) and City of Grand Rapids Environmental Services Division specific to the installation and operation of a Hach Nitrification Control System at the Grand Rapids Wastewater Treatment Plant. Proposal can be altered as agreed by both parties.

OBJECTIVE

The objective of the proposal is to evaluate the Hach Nitrification Controller (RTC-N) at the City of Grand Rapids wastewater treatment plant, comparing the performance metrics defined below between the RTC controlled train and a manually controlled train.

The Nitrification Controller consists of two Hach AMTAX™sc Ammonia analyzers, FILTRAX Filtration Systems, a SOLITAX sc TS-Line Suspended Solids Sensor, sc1000 Controllers, the RTC-N Control Module and appropriate mounting hardware. For the purposes of the study and future expansion plans, two additional AMTAX sc Ammonia Analyzers, FILTRAX Filtration Systems, and sc1000 will be installed.

PERFORMANCE METRICS

The study compares the following metrics defined at the February 19, 2013 meeting:

- Reduction in airflow (correlated to blower amperage and therefore energy) between Train 2 (experimental) and Train 1 (control) in the south plant
- Mixed liquor effluent ammonia concentration in Train 1 & 2 less than or equal to 9.0mg/L NH₄-N between October to June; and less than 4.0mg/L NH₄-N between June and September, 95% of the time

SYSTEM DESCRIPTION

The Nitrification Controller is an automation system that optimizes nitrification in continuously aerated biological wastewater treatment plants. The system consists of an open-loop controller which outputs a dissolved oxygen setpoint to maintain the end-user defined ammonia setpoint at the end of the aeration basin. The dissolved oxygen output is based upon mixed liquor influent ammonia concentration, influent flow rate, return activated sludge flow rate, mixed liquor suspended solids concentration and temperature. The setpoint can be output via 4-20mA analog or digital communication such as MODBUS or Profibus. If online

measurement values for ammonia, flow or TSS are not available, the controller automatically switches over to a fallback strategy using lookup tables inside the Nitrification Controller.

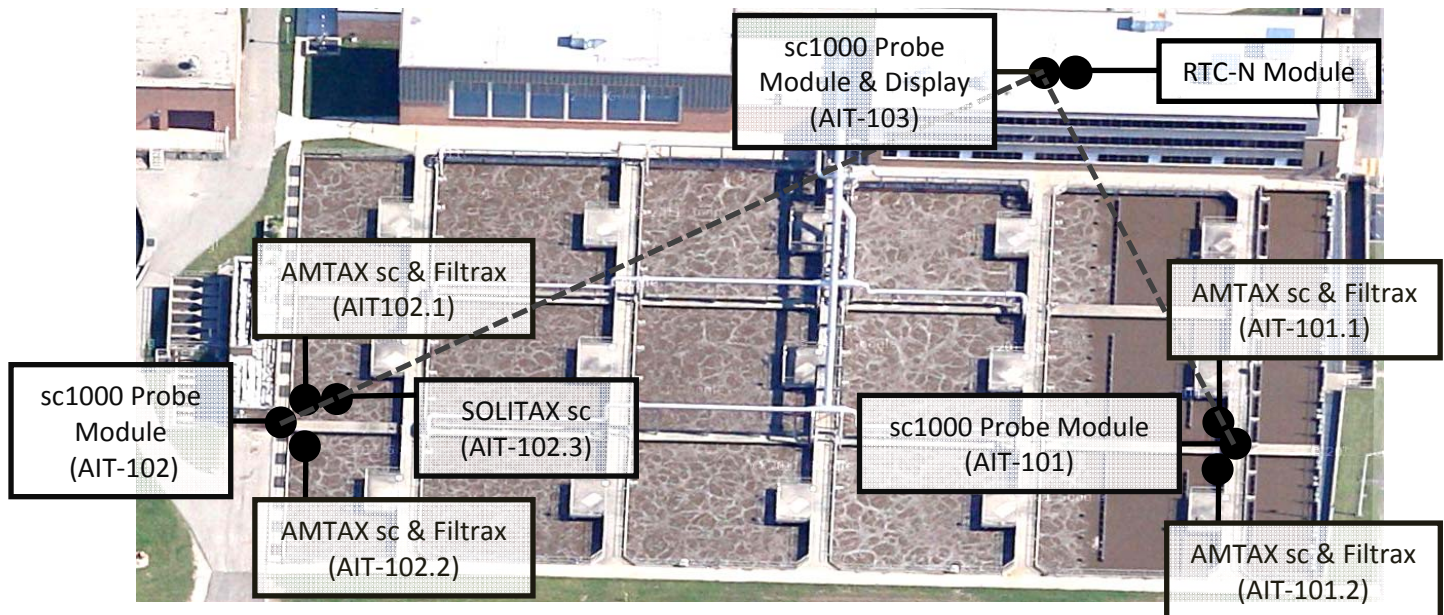
Also included is a closed-loop PID control which incorporates the ammonia concentration at the end of the aeration basin. The PID output values are then combined with the open-loop control output values to trim the required dissolved oxygen setpoint. An ammonia analyzer at the end of the aeration basin is required for the closed-loop control PID control and is included in this proposal.

Programming of the Nitrification Controller and sensors is accomplished through the touch screen sc1000 display.

At the Grand Rapids location, the recommended Nitrification Controller will be the one-channel combined open & closed loop system. Trains 1 and 2 will be monitored; Train 1 will serve as the control train and operated in the same historical fashion; Train 2 will serve as the experimental train and controlled by the Real Time Controller.

One dissolved oxygen setpoint will be output via 4-20mA signal from the Nitrification Controller to the existing SCADA aeration control system. If desired, all of the measurements above can be integrated into the existing SCADA system via analog or digital outputs from the sc1000.

INSTALLATION



For the purposes of this study, four AMTAX sc Ammonia Analyzers, four FILTRAX Filtration Systems, one SOLITAX sc TS-Line Sensor, three sc1000 Probe Modules, one sc1000 Display Module and one RTC-N Module will be installed in the South Plant.

Ammonia Analyzers

Two AMTAX sc and FILTRAX will be installed in Train 1 & 2, in the Anaerobic Zone as indicated in the diagram above (AIT-101.1 and AIT-101.2). Both AMTAX sc Analyzers will be connected to the sc1000 probe module (AIT-101).

Two AMTAX sc and FILTRAX will be installed in Train 1 & 2, at the end of the aeration basin as indicated above (AIT-102.1 and AIT-102.2). Both AMTAX sc Analyzers will be connected to the sc1000 probe module (AIT-102).

A SOLITAX sc TS-Line Suspended Solids sensor will be installed at the end of the aeration basin in Train 2 as indicated above (AIT-102.3) and connected to the sc1000 probe module (AIT-102).

Grand Rapids is responsible for installation & wiring of the equipment. At both locations (AIT-101, AIT-102) the sc1000 probe module requires main voltage of 120vAC 10A. Also both locations (AIT-101, AIT-102) each FILTRAX will require main voltage of 120vAC 2.5A. When installing the AMTAX sc Analyzers outside over a concrete catwalk, it is recommended to create a gravity drain system out of one inch or larger PVC directing the waste stream back into the aeration basin.

The minimum mounting requirements are that the equipment be mounted in such a manner that access to all components be easy and without unnecessary strain (e.g. mounting approximately 2-4 feet above the ground, sc1000 near eye level, etc).

Blower Building

One sc1000 probe module will be installed in the PLC cabinet in the Blower Building as indicated above (AIT-103). The RTC-N module will be installed in the same PLC cabinet and integrated into the PLC.

The display for the sc1000 can be installed at any of the probe module locations, as desired by the end user.

Grand Rapids is responsible for installation & wiring of the equipment. The sc1000 at location AIT-103 requires a main voltage of 120vAC 5A. The RTC-N module at AIT-103 will require main voltage of 120vAC or 24vDC.

Grand Rapids is responsible for installing signal wiring (22AWG or larger two conductor shielded cable) and conduit between the sc1000 probe modules on the aeration basin and the sc1000 probe module in the blower building. Grand Rapids is also responsible for integrating the secondary effluent plant flow, RAS flow, and temperature measurement from a 4-20mA analog output card from the PLC into the RTC-N & sc1000, and integrating the DO setpoint out of the RTC-N into a 4-20mA analog input card in the PLC.

Hach will connect the RTC-N Module to the sc1000 probe module, along with the signal wiring between sc1000 probe modules installed along the aeration basin in the south plant.

Integration of the ammonia and TSS concentration measurements can also be wired from the sc1000 probe module to the existing PLC via 4-20mA analog signals or Modbus digital communication and are the responsibility of Grand Rapids.

Dimensions of this equipment are attached in Appendix A.

Startup, initial programming, and training of the system will be supplied by Hach on a date agreed upon by the entire study team.

Supplied by Hach

- AMTAX sc Ammonia analyzers, sc1000 Controllers, FILTRAX Sample Filtration systems and SOLITAX sc TS-Line Sensor
- Hardware for rail mounting the AMTAX sc Analyzers in all four locations
- Hardware for mounting the FILTRAX Filtration Systems in all four locations
- Hardware for rail mounting the two sc1000 probe modules in the outdoor locations
- RTC-N Nitrification Control Module
- Startup, programming, and end user training of the equipment above
- Included with WarrantyPlus Service:
 - Quarterly site visits for preventative maintenance service
 - Remote service through Hach Technical Support (cellular connection to sc1000)

Supplied by Others

- Installation of the RTC-N Nitrification Control Module in existing PLC cabinet, supplying the module with 120 vAC or 24 vDC power (<5 A required)
 - Wiring 4-20mA outputs from existing PLC to input card on RTC-N (plant & RAS flow)
 - Wiring a 4-20mA or MODBUS/Profibus output from RTC-N to input card on existing PLC (Dissolved Oxygen Setpoint)
- Mounting the AMTAX sc , SOLITAX sc, Filtrax, sc1000 in the desired locations
- Wiring the sc1000 probe modules and Filtraxes with 120vAC power (10A required per sc1000, 2.5A per FILTRAX)
- Supply & pull a 2 conductor shielded cable (22 AWG or greater) between outdoor sc1000 probe module locations and sc1000 probe module in the Blower Building PLC cabinet
- Supply a 2 conductor shielded cable (22 AWG or greater) between the sc1000 probe module and RTC-N in the PLC cabinet
- Wiring 4-20mA output from existing PLC analog output card into Blower Building sc1000

analog input card for temperature measurement

- Optionally, supply and pull signal cable of choice from sc1000 probe module in Blower Building to PLC for other measurement signals (ammonia, TSS, etc)
- Integration of DO setpoints, plant flow, and mixed liquor effluent ammonia signals into SCADA

CONCLUSION

The cost of system is \$143,404 which does not include shipping or applicable taxes. Hach Standard Terms and Conditions would apply for the Project.

Included in that price is one year of WarrantyPlus service which includes all preventative maintenance parts, quarterly site visits by Hach Service personnel to perform preventative maintenance on the system, and remote connection service by Hach Technical Support. Not included in the WarrantyPlus Service are AMTAX sc reagents.

Upon receipt of your purchase order, shipment of the above items is as follows:
4 – 6 weeks

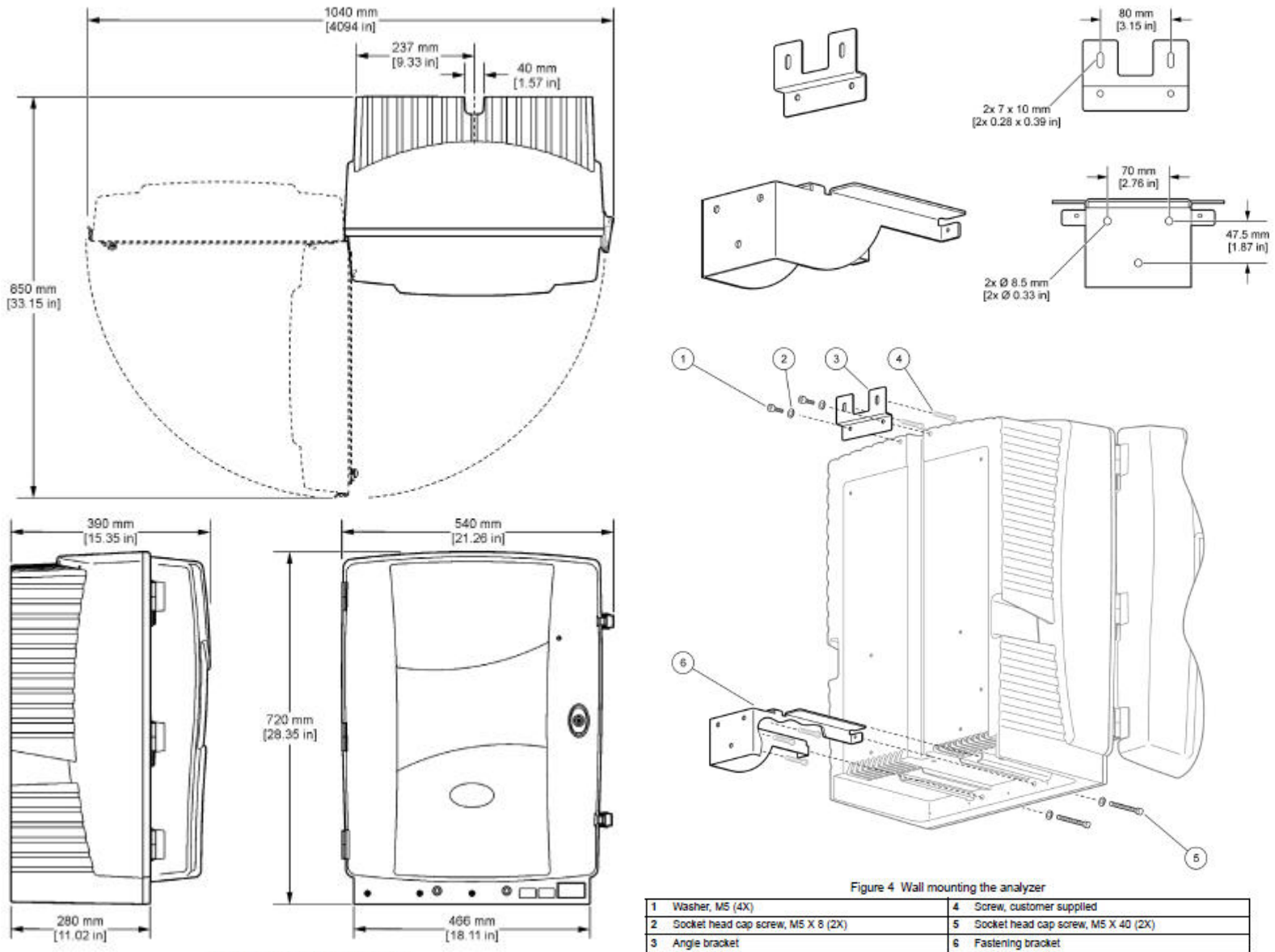
To avoid confusion and assure proper handling of your order, please have your Procurement Department forward the Purchase Order directly to my attention. If you have any questions please call me at 989-534-1112.

Thank you for allowing Hach Company to be part of this very important project.

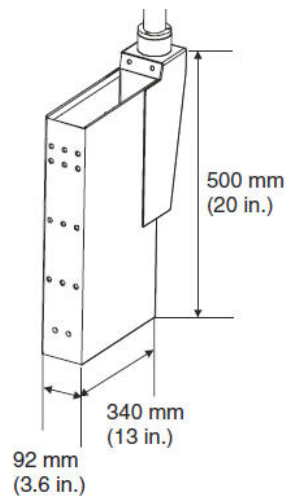
John Ingleright
Regional Sales Manager
Hach Company

APPENDIX A: Dimensions of System Components *(not to scale)*

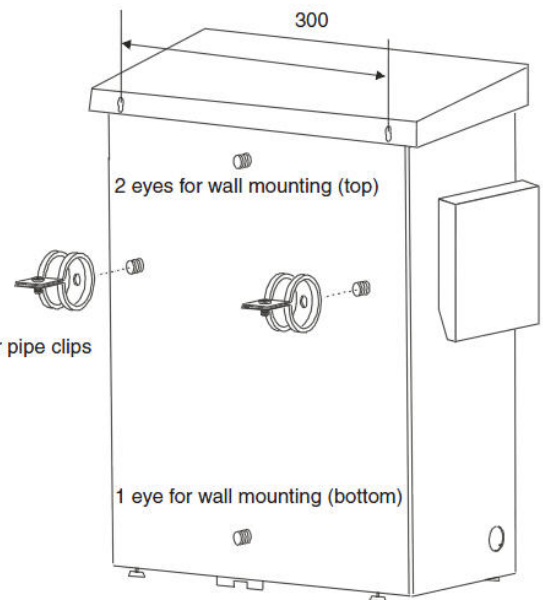
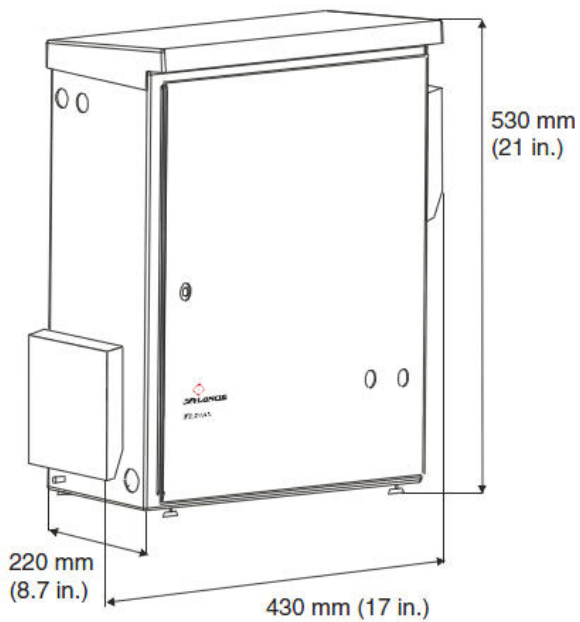
AMTAX sc Ammonia Analyzer



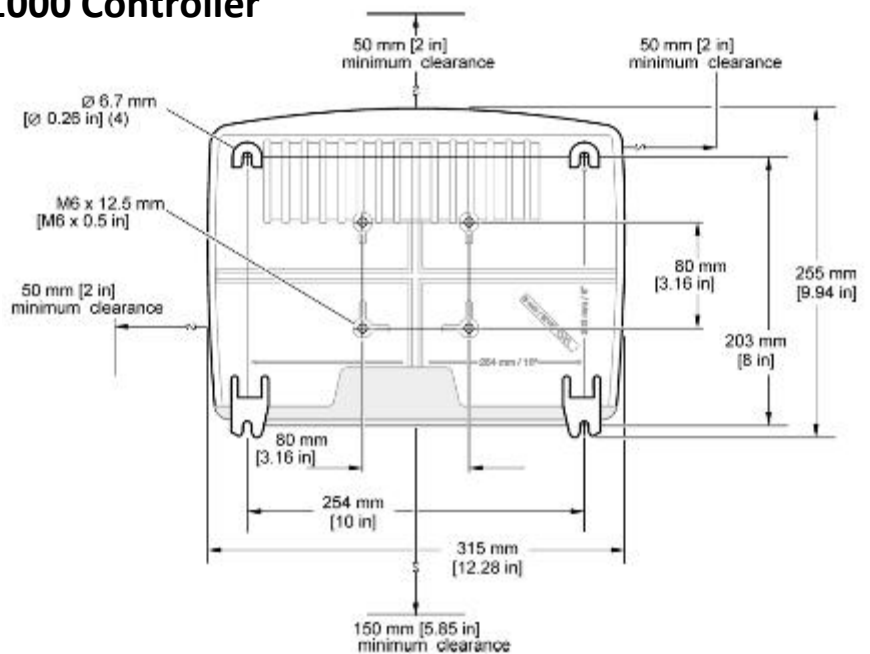
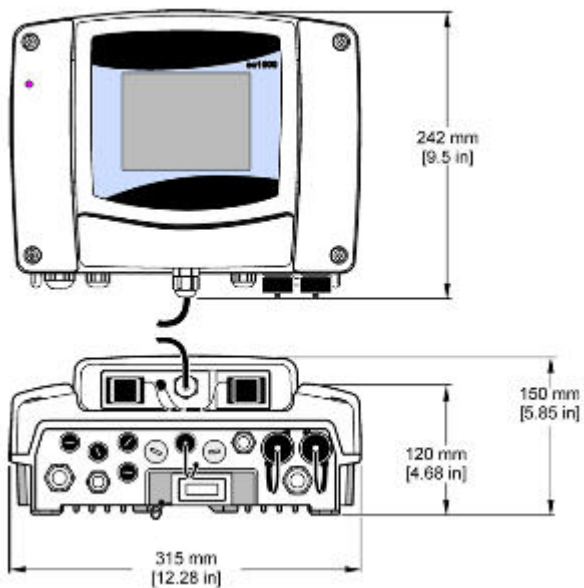
Filtrax Filtration Module



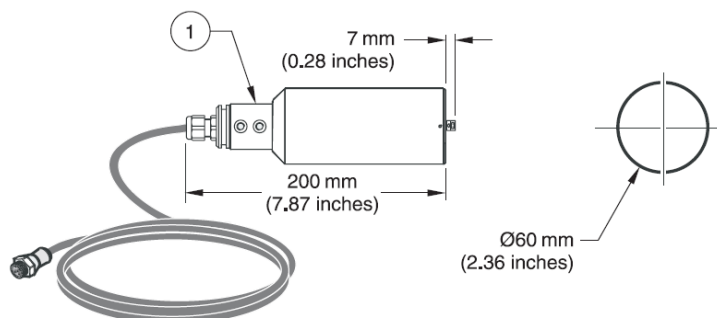
Filtrax Control Module



sc1000 Controller



SOLITAX sc TS-Line



TERMS & CONDITIONS OF SALE FOR HACH COMPANY PRODUCTS AND SERVICES

This document sets forth the Terms & Conditions of Sale for goods manufactured and/or supplied, and services provided, by Hach Company of Loveland, Colorado ("Hach") and sold to the original purchaser thereof ("Buyer"). Unless otherwise specifically stated herein, the term "Hach" includes only Hach Company and none of its affiliates. Unless otherwise specifically stated in a previously-executed written purchase agreement signed by authorized representatives of Hach and Buyer, these Terms & Conditions of Sale establish the rights, obligations and remedies of Hach and Buyer which apply to this offer and any resulting order or contract for the sale of Hach's goods and/or services ("Products").

1. **APPLICABLE TERMS & CONDITIONS:** These Terms & Conditions of Sale are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale ("Contract") in accordance with these Terms & Conditions: (i) Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of these Terms & Conditions of Sale are not a part of the Contract.

2. **CANCELLATION:** Buyer may cancel goods orders subject to fair charges for Hach's expenses including handling, inspection, restocking, freight and invoicing charges as applicable, provided that Buyer returns such goods to Hach at Buyer's expense within 30 days of delivery and in the same condition as received. Buyer may cancel service orders on ninety (90) day's prior written notice and refunds will be prorated based on the duration of the service plan. Inspections and re-instatement fees may apply upon cancellation or expiration of service programs.

3. **DELIVERY:** Delivery will be accomplished FCA Hach's facility located in Ames, Iowa or Loveland, Colorado, United States (Incoterms 2010). For orders having a final destination within the U.S., legal title and risk of loss or damage pass to Buyer upon transfer to the first carrier. For orders having a final destination outside the U.S., legal title and risk of loss or damage pass to Buyer when the Products enter international waters or airspace or cross an international frontier. Hach will use commercially reasonable efforts to deliver the Products ordered herein within the time specified on the face of this Contract or, if no time is specified, within Hach's normal lead-time necessary for Hach to deliver the Products sold hereunder. Upon prior agreement with Buyer and for an additional charge, Hach will deliver the Products on an expedited basis. Standard service delivery hours are 8 am – 5 pm Monday through Friday, excluding holidays.

4. **INSPECTION:** Buyer will promptly inspect and accept any Products delivered pursuant to this Contract after receipt of such Products. In the event the Products do not conform to any applicable specifications, Buyer will promptly notify Hach of such nonconformance in writing. Hach will have a reasonable opportunity to repair or replace the nonconforming product at its option. Buyer will be deemed to have accepted any Products delivered hereunder and to have waived any such nonconformance in the event such a written notification is not received by Hach within thirty (30) days of delivery.

5. **PRICES & ORDER SIZES:** All prices are in U.S. dollars and are based on delivery as stated above. Prices do not include any charges for services such as insurance; brokerage fees; sales, use, inventory or excise taxes; import or export duties; special financing fees; value added taxes; income or royalty taxes imposed outside the U.S.; consular fees; special permits or licenses; or similar charges imposed upon the production, sale, distribution, or delivery of Products hereunder. Buyer will either pay any and all such taxes and charges or provide Hach with acceptable exemption certificates, which obligation survives performance under this Contract. Hach reserves the right to establish minimum order sizes and will advise Buyer accordingly.

6. **PAYMENTS:** All payments must be made in U.S. dollars. For Internet orders, the purchase price is due at the time and in the manner set forth at www.hach.com. Invoices for all other orders are due and payable (1) NET 30 DAYS from date of the invoice without regard to delays for inspection or transportation, with payments to be made by check to Hach at the above address or by wire transfer to the account stated on the front of Hach's invoice. In the event payments are not made or not made in a timely manner or (2) for customers with no established credit, Hach may require cash or credit card payment in advance of deliver, Hach may, in addition to all other remedies provided at law, either: (1) declare Buyer's performance in breach and terminate this Contract for default; (2) withhold future shipments until delinquent payments are made; (3) deliver future shipments on a cash-with-order or cash-in-advance basis even after the delinquency is cured; (4) charge interest on the delinquency at a rate of 1-1/2% per month or the maximum rate permitted by law, if lower, for each month or part thereof of delinquency in payment plus applicable storage charges and/or inventory carrying charges; (5) repossess the Products for which payment has not been made; (6) recover all costs of collection including reasonable attorney's fees; or (7) combine any of the above rights and remedies as is practicable and permitted by law. Buyer is prohibited from setting off any and all monies owed under this from

any other sums, whether liquidated or not, that are or may be due Buyer, which arise out of a different transaction with Hach or any of its affiliates. Should Buyer's financial responsibility become unsatisfactory to Hach in its reasonable discretion, Hach may require cash payment or other security. If Buyer fails to meet these requirements, Hach may treat such failure as reasonable grounds for repudiation of this Contract, in which case reasonable cancellation charges shall be due Hach. Buyer grants Hach a security interest in the Products to secure payment in full, which payment releases the security interest but only if such payments could not be considered an avoidable transfer under the U.S. Bankruptcy Code or other applicable laws. Buyer's insolvency, bankruptcy, assignment for the benefit of creditors, or dissolution or termination of the existence of Buyer, constitutes a default under this Contract and affords Hach all the remedies of a secured party under the U.C.C., as well as the remedies stated above for late payment or non-payment.

7. **LIMITED WARRANTY:** Hach warrants that Products sold hereunder will be free from defects in material and workmanship and will conform to any express written warranty pertaining to the specific goods purchased, which for most Hach instruments is for a period of twelve (12) months from delivery. Hach warrants that services furnished hereunder will be free from defects in workmanship for a period of ninety (90) days from the completion of the services. Parts provided by Hach in the performance of services may be new or refurbished parts functioning equivalent to new parts. Any non-functioning parts that are repaired by Hach shall become the property of Hach. No warranties are extended to consumable items such as, without limitation, reagents, batteries, mercury cells, and light bulbs. **All other guarantees, warranties, conditions and representations, either express or implied, whether arising under any statute, law, commercial usage or otherwise, including implied warranties of merchantability and fitness for a particular purpose, are hereby excluded.** The sole remedy for Products not meeting this Limited Warranty is replacement, credit or refund of the purchase price. This remedy will not be deemed to have failed of its essential purpose so long as Hach is willing to provide such replacement, credit or refund.

8. **INDEMNIFICATION:** Indemnification applies to a party and to such party's successors-in-interest, assignees, affiliates, directors, officers, and employees ("Indemnified Parties"). Hach is responsible for and will defend, indemnify and hold harmless the Buyer Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to Hach's breach of the Limited Warranty. This indemnification is provided on the condition that the Buyer is likewise responsible for and will defend, indemnify and hold harmless the Hach Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to the negligence or misuse or misapplication of any goods or services by the Buyer or any third party affiliated or in privity with Buyer.

9. **PATENT PROTECTION:** Subject to all limitations of liability provided herein, Hach will, with respect to any Products of Hach's design or manufacture, indemnify Buyer from any and all damages and costs as finally determined by a court of competent jurisdiction in any suit for infringement of any U.S. patent (or European patent for Products that Hach sells to Buyer for end use in a member state of the E.U.) that has issued as of the delivery date, solely by reason of the sale or normal use of any Products sold to Buyer hereunder and from reasonable expenses incurred by Buyer in defense of such suit if Hach does not undertake the defense thereof, provided that Buyer promptly notifies Hach of such suit and offers Hach either (i) full and exclusive control of the defense of such suit when Products of Hach only are involved, or (ii) the right to participate in the defense of such suit when products other than those of Hach are also involved. Hach's warranty as to use patents only applies to infringement arising solely out of the inherent operation of the Products according to their applications as envisioned by Hach's specifications. In case the Products are in such suit held to constitute infringement and the use of the Products is enjoined, Hach will, at its own expense and at its option, either procure for Buyer the right to continue using such Products or replace them with non-infringing products, or modify them so they become non-infringing, or remove the Products and refund the purchase price (prorated for depreciation) and the transportation costs thereof. The foregoing states the entire liability of Hach for patent infringement by the Products. Further, to the same extent as set forth in Hach's above obligation to Buyer, Buyer agrees to defend, indemnify and hold harmless Hach for patent infringement related to (x) any goods manufactured to the Buyer's design, (y) services provided in accordance with the Buyer's instructions, or (z) Hach's Products when used in combination with any other devices, parts or software not provided by Hach hereunder.

10. **TRADEMARKS AND OTHER LABELS:** Buyer agrees not to remove or alter any indicia of manufacturing origin or patent numbers contained on or within the Products, including without limitation the serial numbers or trademarks on nameplates or cast, molded or machined components.

11. **SOFTWARE.** All licenses to Hach's separately-provided software products are subject to the separate software license agreement(s) accompanying the software media. In the absence of such terms and for all other software, Hach grants Buyer only a personal, non-exclusive license to access and use the software

provided by Hach with Products purchased hereunder solely as necessary for Buyer to enjoy the benefit of the Products. A portion of the software may contain or consist of open source software, which Buyer may use under the terms and conditions of the specific license under which the open source software is distributed. Buyer agrees that it will be bound by any and all such license agreements. Title to software remains with the applicable licensor(s).

12. NONDISCLOSURE AND NON-USE OF PROPRIETARY INFORMATION: "Proprietary Information" means any information, technical data or know-how in whatever form, including, but not limited to, documented information, machine readable or interpreted information, information contained in physical components, mask works and artwork, which Hach considers proprietary or Proprietary, including but not limited to Hach's service and maintenance manuals. Buyer and its customers, employees and agents will keep confidential all such Proprietary Information obtained directly or indirectly from Hach and will not transfer or disclose it without Hach's prior written consent, or use it for the manufacture, procurement, servicing or calibration of Products or any similar products, or cause such products to be manufactured, serviced or calibrated by or procured from any other source, or reproduce or otherwise appropriate it without Hach's prior written consent. All such Proprietary Information remains property of Hach. No right or license is granted hereby to Buyer or its customers, employees or agents, expressly or by implication, with respect to the Proprietary Information or any patent, patent application or other proprietary right of Hach, except for the limited use licenses implied by law.

13. CHANGES AND ADDITIONAL CHARGES: Hach reserves the right to make changes in design or additions or improvements to any products of the same general class as Products being delivered hereunder without liability or obligation to incorporate such changes, additions or improvements to Products ordered by Buyer unless specifically agreed upon in writing reasonably in advance of such Products' delivery date. Services which must be performed as a result of any of the following conditions are subject to additional charges for labor, travel and parts: (a) equipment alterations not authorized in writing by Hach; (b) damage resulting from improper use or handling, accident, neglect, power surge, or operation in an environment or manner in which the instrument is not designed to operate or is not in accordance with Hach's operating manuals; (c) the use of parts or accessories not provided by Hach; (d) damage resulting from acts of war, terrorism or nature; or (e) services outside standard business hours.

14. SITE ACCESS / PREPARATION / WORKER SAFETY / ENVIRONMENTAL COMPLIANCE: In connection with services provided by Hach, Buyer agrees to permit prompt access to equipment. Buyer assumes full responsibility to back-up or otherwise protect its data against loss, damage or destruction before services are performed. Buyer is the operator and in full control of its premises, including those parts of the premises where Hach employees or contractors are performing service, repair and maintenance activities. Buyer will ensure that all necessary measures are taken for safety and security of working conditions, sites and installations during the performance of services. Buyer is the generator of any wastes, including without limitation hazardous wastes, resulting from such services, repair and maintenance. Buyer is solely responsible to arrange for the disposal of any wastes at its own expense. Buyer will, at its own expense, provide Hach employees and contractors working on Buyer's premises with all information and training required under applicable safety compliance regulations and Buyer's policies. If the instrument to be serviced is in a Confined Space, as that term is defined under OSHA regulations, Buyer is solely responsible to make it available to be serviced in an unconfined space. Hach service technicians will not work in Confined Spaces. In the event that a Buyer requires Hach employees or contractors to attend safety or compliance training programs provided by Buyer, Buyer will pay Hach the standard hourly rate and expense reimbursement for such training attended. The attendance at or completion of such training does not create or expand any warranty or obligation of Hach and does not serve to alter, amend, limit or supersede any part of this Contract.

15. LIMITATIONS ON USE: Buyer will not use any Products for any purpose other than those identified in Hach's catalogs and literature as intended uses. Unless Hach has advised the Buyer in writing, in no event will Buyer use any Products in drugs, food additives, food or cosmetics, or medical applications for humans or animals. In no event will Buyer use in any application any Product that requires FDA 510(k) clearance unless and only to the extent the Product has such clearance. Any warranty granted by Hach is void if any goods covered by such warranty are used for any purpose not permitted hereunder.

16. EXPORT AND IMPORT LICENSES AND COMPLIANCE WITH LAWS: Unless otherwise specified in this Contract, Buyer is responsible for obtaining any required export or import licenses. Hach represents that all Products delivered hereunder will be produced and supplied in compliance with all applicable laws and regulations. Buyer will comply with all laws and regulations applicable to the installation or use of all Products, including applicable import and export control laws and regulations of the U.S., E.U. and any other country having proper jurisdiction, and will obtain all necessary export licenses in connection with any subsequent export, re-export, transfer and use of all Products and technology delivered hereunder. Buyer will not sell, transfer, export or re-export any Hach Products or technology for use in activities which involve the design, development,

production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor use Hach Products or technology in any facility which engages in activities relating to such weapons. Buyer will comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Buyer's business activities in connection with this Contract, including but not limited to the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"). Buyer agrees that no payment of money or provision of anything of value will be offered, promised, paid or transferred, directly or indirectly, by any person or entity, to any government official, government employee, or employee of any company owned in part by a government, political party, political party official, or candidate for any government office or political party office to induce such organizations or persons to use their authority or influence to obtain or retain an improper business advantage for Buyer or for Hach, or which otherwise constitute or have the purpose or effect of public or commercial bribery, acceptance of or acquiescence in extortion, kickbacks or other unlawful or improper means of obtaining business or any improper advantage, with respect to any of Buyer's activities related to this Contract.

17. FORCE MAJEURE: Hach is excused from delays in delivery and performance of other contractual obligations under this Contract caused by acts or omissions that are beyond the control of Hach, including but not limited to Government embargoes, blockages, seizures or freeze of assets, delays or refusals to grant an export or import license or the suspension or revocation thereof, or any other acts of any Government; fires, floods, severe weather conditions, or any other acts of God; quarantines; labor strikes or lockouts; riots; strife; insurrections; civil disobedience or acts of criminals or terrorists; war; material shortages or delays in deliveries to Hach by third parties. In the event of the existence of any force majeure circumstances, the period of time for delivery, payment terms and payments under any letters of credit will be extended for a period of time equal to the period of delay. If the force majeure circumstances extend for six months, Hach may, at its option, terminate this Contract without penalty and without being deemed in default or in breach thereof.

18. NON ASSIGNMENT AND WAIVER: Buyer will not transfer or assign this Contract or any rights or interests hereunder without Hach's prior written consent. Failure of either party to insist upon strict performance of any provision of this Contract, or to exercise any right or privilege contained herein, or the waiver of any breach of the terms or conditions of this Contract will not be construed as thereafter waiving any such terms, conditions, rights, or privileges, and the same will continue and remain in force and effect as if no waiver had occurred.

19. LIMITATION OF LIABILITY: None of the Hach Indemnified Parties will be liable to Buyer under any circumstances for any special, treble, incidental or consequential damages, including without limitation, damage to or loss of property other than for the Products purchased hereunder; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of the products or inaccurate measurements or reporting; the cost of substitute products; or claims of Buyer's customers for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise). The total liability of the Hach Indemnified Parties arising out of the performance or nonperformance hereunder or Hach's obligations in connection with the design, manufacture, sale, delivery, and/or use of Products will in no circumstance exceed in the aggregate a sum equal to twice the amount actually paid to Hach for Products delivered hereunder.

20. APPLICABLE LAW AND DISPUTE RESOLUTION: The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to its principles or laws regarding conflicts of laws. If any provision of this Contract violates any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Hach and Buyer, any dispute relating to this Contract which is not resolved by the parties shall be adjudicated in order of preference by a court of competent jurisdiction (i) in the State of Colorado, U.S.A. if Buyer has minimum contacts with Colorado and the U.S., (ii) elsewhere in the U.S. if Buyer has minimum contacts with the U.S. but not Colorado, or (iii) in a neutral location if Buyer does not have minimum contacts with the United States.

21. ENTIRE AGREEMENT & MODIFICATION: These Terms & Conditions of Sale constitute the entire agreement between the parties and supersede any prior agreements or representations, whether oral or written. No change to or modification of these Terms & Conditions shall be binding upon Hach unless in a written instrument specifically referencing that it is amending these Terms & Conditions of Sale and signed by an authorized representative of Hach. Hach rejects any additional or inconsistent Terms & Conditions of Sale offered by Buyer at any time, whether or not such terms or conditions materially alter the Terms & Conditions herein and irrespective of Hach's acceptance of Buyer's order for the described goods and services.

* * *



HACH COMPANY

Headquarters

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Loveland, CO 80539-0389

Purchase Orders

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Loveland, CO 80539-0608

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Fax: 970-669-2932
E-Mail: orders@hach.com
quotes@hach.com
techhelp@hach.com

Export

Phone: 970-669-3050
Fax: 970-461-3939
Email: intl@hach.com

Remittance

2207 Collections Center Drive
Chicago, IL 60693

Wire Transfers

Bank of America
231 S. LaSalle St.
Chicago, IL 60604
Account: 8765602385
Routing (ABA): 071000039

Quotation Addendum

ADVANTAGES OF WORKING WITH HACH

<u>Technical Support</u>	<u>SIRR Delivery Program</u>	<u>Hach WarrantyPlus™ Upgrade</u>
<i>Provides post-sale instrumentation and application support</i> <ul style="list-style-type: none"> ✓ Hach's highly skilled Technical Support staff is dedicated to helping you resolve technical issues before, during and after the sale. ✓ Available via phone, e-mail, or live online chat at Hach.com! ✓ Toll-free phone: 800-227-4224 ✓ E-mail: techhelp@hach.com <p>www.Hach.com</p>	<i>The Scheduled Inventory Reagent Replacement (SIRR) Program offers an uninterrupted supply of reagents</i> <ul style="list-style-type: none"> ✓ Lower inventory costs and fresh supplies ✓ Reduced paperwork – one purchase order for the entire year ✓ Automatic shipments on your schedule ✓ Easier budgeting <p>www.Hach.com/sirr</p>	<i>Instrument Protection and Service</i> <ul style="list-style-type: none"> ✓ Savings of more than 20% versus a "pay as you go" approach ✓ Freedom from maintenance ✓ Worry-free compliance with Hach's certification ✓ Fixed maintenance budget for the entire year <p>www.Hach.com/warrantyplus</p>

ADVANTAGES OF SIMPLIFIED FREIGHT

<u>Safe & Fast Delivery</u>	<u>Save Time – Less Hassle</u>	<u>Save Money</u>
<ul style="list-style-type: none"> ✓ Receive tracking numbers on your order acknowledgement ✓ Hach will assist with claims if an order is lost or damaged in shipment 	<ul style="list-style-type: none"> ✓ No need to set up deliveries for orders or to schedule pickup ✓ Hach ships simplified freight orders as the product is available at no additional cost 	<ul style="list-style-type: none"> ✓ No additional invoice to process – save on time and administrative costs ✓ Only pay shipping once, even if multiple shipments are required

STANDARD SIMPLIFIED FREIGHT CHARGES ^{1, 2, 3}						Collect ⁴
Total Price of Merchandise Ordered	Standard Surface (Mainland USA)	Second Day Delivery (Mainland USA)	Next Day Delivery (Mainland USA)	Second Day Delivery (Alaska & Hawaii)	Next Day Delivery (Alaska & Hawaii)	Handling Fee Effective 11/7/2011
\$0.00 - \$49.99	\$12.95	\$30.95	\$58.95	\$44.95	\$89.95	\$4.99
\$50.00 - \$199.99	\$15.95	\$49.95	\$94.95	\$66.95	\$133.95	\$4.99
\$200.00 - \$449.99	\$27.95	\$71.95	\$149.95	\$91.95	\$178.95	\$5.99
\$450.00 - \$749.99	\$37.95	\$99.95	\$199.95	\$124.95	\$241.95	\$5.99
\$750.00 - \$999.99	\$47.95	\$104.95	\$221.95	\$129.95	\$244.95	\$7.99
\$1,000.00 - \$2,249.99	\$59.95	\$119.95	\$233.95	\$141.95	\$281.95	\$7.99
\$2,250.00 - \$4,999.99	\$69.95	\$159.95	\$269.95	\$166.95	\$308.95	\$9.99
\$5,000.00 - \$9,999.99	\$99.95	\$184.95	\$310.95	\$195.95	\$334.95	\$15.00
Over \$10,000	2% of Net Order Value	4% of Net Order Value	6% of Net Order Value	4% of Net Order Value	6% of Net Order Value	\$25.00

¹ Freight charges shown are only applicable to orders billing and shipping to U.S. destinations. Freight charges will be prepaid and added to invoice. Freight for the Reagent Delivery Program is charged on each shipment release and is based on the total price of each shipment release. Freight charges are subject to change without notice.

² Additional freight charges will be applied to orders containing bulky and/or especially heavy orders.

³ Orders shipping to Alaska or Hawaii: Additional freight charges may be applied at time of order processing. Second Day and Next Day delivery is not available to all destinations.

⁴ Hach Company will assess a collect handling fee on orders with collect freight terms. This handling fee covers the additional costs that Hach Company incurs from processing and managing collect shipments.

SALES TAX

Sales Tax is not included in the attached quotation. Applicable sales and usage taxes will be added to your invoice, at the time of order, based on U.S. destination of goods, unless a valid resale/exemption certificate for destination state is provided to the above address or fax number, attention of the Tax Dept.

February 19, 2013

Environment Services Department
City of Grand Rapids
1300 Market Ave SW
Grand Rapids MI 49503

Re: Sole Source for Hach RTC103 Nitrification Controller

To Whom It May Concern:

Hach Company and the Environmental Services Department of Grand Rapids, Michigan are partnering to evaluate a new technology known as the RTC103 Nitrification Controller. The system is designed to reduce the energy consumption of wastewater aeration systems while simultaneously controlling the nitrification rate of the system and has been installed and proven highly effective in the United Kingdom. The partnership between Hach Company and the City of Grand Rapids offers the opportunity to install the first RTC103N Nitrification Controller system in the United States.

Hach Company is the sole source of the RTC103 Nitrification Controller system, which integrates Hach's Amtax sc ammonium analyzers, Filtrax sample filtration systems, sc1000 multiparameter digital controllers, and the RTC Real Time Controller with specially designed control algorithms.

Contact John Ingleright, your Hach Regional Sales Manager if you have further questions or concerns about this matter.

Best Regards,

Hach Company



**Water/Sewer UAB Report
February 2013**

Project Name	Contractor	Award Date	Substantial Completion Date	Final Completion Date	Water Fund Authorized NTE Amt	Sewer Fund Authorized NTE Amt	Est. Year for Rates	Integrated (Y/N)
Improvements to the North Aeration Blowers at the Wastewater Treatment Plant (CWRF Loan No. 5532-01)	Franklin Holwerda, Company	2/5/2013	4/28/2014	5/26/2014	\$ -	\$ 244,409.00	2015	Integrated